

AMENDMENT TO THE DRAWINGS:

Drawings, Figures A and B, filed in response to the restriction requirement, are not intended to be part of the application. Applicant submitted those figures to illustrate the use of mono-guide linear rails and mono-guide corners rails in combination with other components of the system described in the invention.

The mono-guide linear rail and the mono-guide corner rail are no longer claimed in independent claim 10, which is withdrawn. The mono-guide linear rail and the mono-guide corner rail are claimed in depended claim 16 and 17 respectively, as additional components of the same shoring system.

Therefore, Applicant submits that the list of drawings shall remain as originally filed.

FIG. 1 (original)
FIG. 2 (original)
FIG. 3 (original)
FIG. 4 (original)
FIG. 5 (original)
FIG. 6 (original)
FIG. 7 (original)
FIG. 8 (original)
FIG. 9 (original)
FIG. 10 (original)
FIG. 11 (original)
FIG. 12 (original)
FIG. 13 (original)
FIG. 14 (original)
FIG. 15 (original)
FIG. 16 (original)
FIG. 17 (original)
FIG. 18 (original)

REMARKS - General

By the above amendment, Applicant has amended in the specification the paragraphs [0001], [0037], [0039], [0042] and [0046] to correct minor editorial concerns and include very few words or expressions facilitating the reading while better emphasizing the novelty of the invention.

To the Objection to Information Disclosure Statement under 37 CFR 1.29(a)(2), Applicant has provided Notice of References Cited in page 4 of this paper.

The amendment to the drawings is addressed to eliminate any ambiguity with regard Figures A and B sent by the Applicant to the Office in response to the restriction requirement. The Figures A and B are not included in the drawings. Drawings are amended as originally filed.

Also, Applicant has rewritten most of the claims to define the invention more particularly and distinctly so as to overcome technical rejections.

Previously filed Claims 3, 5 and 10 have been withdrawn.

A new listing of Claims is amended as shown below:

Claims 11-13 remain as originally filed;

Claims 1-2; 14-15 are slightly modified to overcome technical rejections;

Claims 5; 7-10 (corresponding to originally filed claims 4; 6-9 respectively) are slightly modified to overcome technical rejections.

Claims 3, 4, 6, 16, 17 and 18 are new and added to recapture the important features of the invention.

CONCLUSION

For all the above reasons, Applicant submits that the specifications and claims are now in proper form. Therefore, Applicant submits that this application is now in condition for allowance, which action he respectfully solicits.

CONDITIONAL REQUEST FOR CONSTRUCTIVE ASSISTANCE

Applicant has amended the specification and claims of this application so that they are proper, definite, and define novel structure, which is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, Applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. §2173.02 and §707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,

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APPENDIX

COMPLETE LIST OF CURRENTLY AMENDED CLAIMS

1. A shoring system comprising:

- a) linear rails, each said linear rail having opposing sides, each said opposing side having an outer guide running along entire length of said linear rail and an inner guide running partially from the bottom up, said outer guide and said inner guide being adapted to interlock shoring panels sliding vertically within, each said linear rail further comprising lengthwise an external edge guide;**
- b) strutting assemblies, each said strutting assembly comprising at least one horizontal spreader and two vertical members, each said vertical member being adapted to cooperatively engage formlocking said edge guide of said linear rail but slide relatively;**
- c) shoring panels, each said shoring panel having laterally on either end an edge guide to interlock but slide vertically within said outer guide and said inner guide of said linear rail.**

2. The shoring system of claim 1 wherein said linear rail has a lower section and an upper section, said lower section being defined by the length of said inner guide covering 30% to 75% of total length of said linear rail and said upper section being defined as complementary to said lower section, such that:

said upper section comprising a back flange and a front flange holding perpendicularly in

between two parallel lateral flanges spaced apart to shape altogether a particular box beam having said back flange and said front flange projecting oppositely outward;

said lower section comprising in addition of said back flange, said front flange, and said

lateral flanges continuing from said upper section, an intermediary flange and at least two strips, the width of said lateral flanges being slightly narrower than in said upper section so that one side of said intermediary flange fastens onto said lateral flanges while the other side, fastens, via two said strips, onto said front flange, said intermediary flange projecting oppositely outward of lateral flanges shaping with said back flange a channel structure on either side of said linear rail, said strips aligning in between or in

- continuation of said lateral flanges shaping together with said front flange, a frontal edge guide positioned lengthwise externally along said linear rail;
- each said lateral flange having a separating member means projecting outward to shape in combination with said back flange and said intermediary flange respectively said outer guide and said inner guide;
- said back flange having a locking bar welded onto each lip, interior to said outer guide, to interlock said shoring panels sliding within said outer guide, said locking bar running along entire length of said outer guide or partially;
- said separating member optionally having, interior to said inner guide, a locking bar to interlock shoring panels sliding within said inner guide, said locking bar running along entire length of said inner guide or partially.
3. A linear rail as set forth in the claim 2 wherein the cross section of said separating member having a U-shape or a rectangular shape being fabricated by mean of cutting lengthwise a rectangular tube, bending a flat bar or joining together flat bars.
4. The shoring system of claim 1 further comprising corner rails, each said corner rail having oblique opposing sides, each said opposing side having an outer guide running along entire length of said corner rail and an inner guide running partially from the bottom up, said outer guide and said inner guide being adapted to interlock said shoring panels sliding vertically within.
5. The shoring system as set forth in claim 4, wherein said corner rail comprises:
- a back flange and two structural channels held oppositely with their respective flanges looking outward, said back flange and each respective web of said structural channel being joined together to shape three faces of a hollow elongated polyhedron whose cross section is an isosceles triangle wherein the base is represented by said back flange, the legs by respective webs of said structural channels and the vertex angle taking any values between 15 and 90 degrees;
- each said structural channel having a separating member and a locking bar, said separating member means projecting outward to shape said outer guide and said inner

guide with respectively rear and front flanges of said structural channel, said locking bar being weld onto the lip of rear flange of said structural channel, interior to said outer guide, to interlock said shoring panels sliding within, said locking bar running along entire length of said outer guide or partially;

each separating member optionally having, interior to said inner guide, a said locking bar to interlock said shoring panels sliding within, said locking bar running along entire length of said inner guide or partially.

6. A corner rail as set forth in the claim 5 wherein the cross section of said separating member having a U-shape or a rectangular shape being fabricated by mean of cutting lengthwise a rectangular tube, bending a flat bar or joining together flat bars
7. A corner rail as set forth in claim 5 further including a reinforcing flange welded between flanges of respective said structural channels farthest from said back flange.
8. A corner rail as set forth in claim 5 further including an edge guide means for sliding a said strutting assembly, said edge guide being adapted onto flanges of said structural channels farthest from said back flange.
9. A corner rail as set forth in claim 7, wherein at said upper section, the flange of each said structural channel farthest from said back flange is cut close to its web to facilitate the insertion of panels within said inner guide.
10. A corner rail as set forth in claim 5, wherein:

at said upper section said structural channels are replaced by structural angles, said structural angle being oriented in alignment of said structural channels present in lower section of said corner rail, said upper section further comprising a front flange, said front flange joining on either end respective leg of each said structural angle, said upper section further including said separating members and said locking bars.

11. A shoring system as set forth in claim 1, wherein the strutting assembly comprising said horizontal spreader and vertical members such that:
 - each said vertical member consisting of two identical lateral plates held parallel at upper and lower ends respectively by an upper plate and a lower plate, a supporting plate welded laterally on one end of said lateral plates, and an inner plate welded in between said lateral plates; said lateral plates projecting outward past said inner plate to shape a guide channel to cooperatively slide over said edge guide of said linear rail, each said lateral plate having further a strip or the lip bent inward, to interlock said edge guide of said linear rail, said lateral plates being provided on upper and lower ends with holes to mount at least two axles for installing rollers;
 - each said vertical member having further a segmental tube weld onto opposite face relative to guide channel, said segmental tube being provided with flanges to connect via bolts onto said horizontal spreader;
 - said horizontal spreader being a structural beam provided on either side with flanges to connect via bolts onto vertical members.
12. A strutting assembly as set forth in claim 11, wherein said upper plate and said lower plate are provided with holes to allow the connection of two or more said strutting assemblies via vertical extension members, said vertical extension members having at upper and lower ends contact flanges with holes for bolting.
13. A shoring panel as set forth in claim 1, wherein each said edge guide consists of a rectangular tube and a locking bar of round or rectangular section.
14. A shoring panel as set forth in claim 13, wherein said locking bar welded along said rectangular tube means, for forming said edge guide, is slightly curved and has either extremity pointing laterally outward.
15. A shoring panel as set forth in claim 14 wherein said locking bar is 10% to 75% shorter than said rectangular tube of said edge guide.
16. A shoring system as set forth in the claim 1 further comprising:
 - mono-guide linear rails, each said mono-guide linear rail having opposing sides, each said opposing side having one guide, said guide being adapted to interlock said shoring

panels sliding vertically within, each said mono-guide linear rail further comprising lengthwise an external edge guide means for sliding a said strutting assembly, said edge guide running entirely or partially along said mono-guide rail.

17. A shoring system as set forth in the claim 1 further comprising:

mono-guide corner rails, each said mono-guide corner rail having oblique opposing sides, each said opposing side having one guide, said guide being adapted to interlock said shoring panels sliding vertically within.

18. A corner rail to be used in combination with large shoring panels for supporting the walls of open excavations of polygonal shape wherein:

corner rail means, to be arranged on each corner of the excavation for supporting said shoring panels using two structural channels means, for forming two oblique opposing sides means, for shaping an angle of value between 15 and 90 degrees, provided with separating members means, for shaping guides means, for sliding vertically said shoring panels.